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The Structure-Conduct-Performance Analysis of Honey Market in Shebedino District, Snnpr, Ethiopia

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Abstract
This study was conducted in Shebedino districtwhich is one of the 19 districts of Sidama zone found under SNNPR of Ethiopia. Shebedino districtis known for its high production of honey. However, there is a gap in honey marketing in the districtin that honey marketing system in the districtwas inefficient. To identify this, data were collected from 156 honey producers, 31 traders, 7 processors and 30 consumers. The data collected was analyzed using descriptive statistics and SCP model. The result indicated that the structure of honey market in the districtwas strong oligopoly with four firms' concentration ratio of 58.18%. The honey market conduct was inefficient in that some traders were price makers and the price was affected by individual firms. From marketing margin analysis it was observed that large margins were going to middlemen. Hence from the result of market structure, conduct and performance analysis it is possible to conclude that honey market in the case of the study area is inefficient.
Keywords: market structure, market conduct, market performance

1. Introduction

Ethiopia is known for its honey production in Africa. It is the highest producer of honey in Africa followed by Tanzania and Kenya (SATT, 2016). The countries annual production amount for the year 2012 was 53.7 thousand tones (MoA and ILRI, 2013). As per USAID (2012) report, about 24% of Africa's and of 2% of the world's honey comes from Ethiopia. According to CSA (2015), the major honey and wax producing regions in Ethiopia are Oromia (41%), SNNPR (22%), Amhara (21%), Tigray (5%) and all the rest regions contribute 11%. Shebedino district is one of the 19 districts of Sidama Zone found under SNNPR where there was the highest amount of honey production (124.32 tones) in 2015/16 production year next to Aroresa district (160.72 tone).

However, in Ethiopia, the whole domestic honey market lacks proper structure and legality. So, the beekeepers complain the business as not rewarding and even lacking the market for their product, while the consumers see the ever increasing price of honey as unfair (Gemechis, 2015).

This study focuses on the structure, conduct and performance of honey market in Shededino district. It identifies what the structure, conduct and performance of honey market looks like in the study area.

2. Structure - Conduct - Performance Approach

Structure - Conduct - Performance (S - C - P) is an analytical approach or framework used to study how the structure of the market and the behavior of sellers of different commodities and services affect the performance of markets, and consequently the welfare of the country as a whole (USAID, 2008). Structure, Conduct and Performance paradigm (SCP) is used as an analytical framework, to make relations amongst market structure, market conduct and market performance. It was developed in 1959 by Joe S. Bain Jr., who described it in his book "Industrial Organization" (Kumar, 2013).

2.1. Market Structure

Market structure refers to those organizational characteristics of a market which influence the nature of competition and pricing, and affect the conduct of business firms; and/or it refers to those characteristics of the market which affect the traders behavior and their performances; The components of the market structure, which together determine the conduct and performance of the market are concentration of market power, degree of product differentiation, conditions for entry of firms in the market, flow of market information, and degree of integration (Lenovo, 2011). Thomas and Maurice (2011) cited in Wisdom *et al*. (2014), and USAID (2008) also defined market structure as a set of market characteristics that determine the economic environment in which a firm operates. They also characterized market structure on the basis of four industry characteristics: number and size distribution of active buyers and sellers and potential entrants; degree of product differentiation; amount and cost of information about product price and quality and condition of entry and exit. Most studies use Concentration Ratio, Herfindall- Hirschman Index (HHI) and Gini-Coefficient to measure market concentration most commonly.

Concentration ratio: it measures the percent of traded volume accounted for by a given number of participants. It shows whether an industry is dominated by a few large firms or many small firms. As a rule of thumb,

literatures specify a four enterprise concentration ratio of 50 percent or more is indicative of a strong oligopolistic industry; 33-50 percent ratio denotes a weak oligopoly, and less than that un-concentrated industry. Thus, the more the market is dominated by a few large firms the large the concentration ratio will be (Wisdom *et al*, 2014).

Herfindahl-Hirschman index (HHI): it is calculated by summing the squared market shares of all the firms. HHI includes all firms in the calculation. The problem with this measure is that it needs more data to be collected. Squaring of the individual market shares of the firms gives proportionately greater weight to the market shares of the larger firms. Lack of information about small firms is another problem though it is not critical because such firms do not affect the HHI significantly (Kanyengam and Mangisoni, 2012).

Gini coefficient (GC): it is a ratio of area between the Lorenz Curve of the distribution and the line of equality (uniform distribution) to the lower triangle. It shows the sales distribution among the firms in the industry. Therefore, Gini coefficient is applied to indicate how the distribution of shares has changed within an industry over a period of time, thus it is possible to see if inequality is increasing or decreasing. Gini-Coefficients can vary anywhere from zero (perfect equality) to one (perfect inequality). In actual fact, the Gini-Coefficient with highly unequal distributions typically lies between 0.50 and 0.70, while with relatively equitable distributions it is on the order of 0.20 to 0.35 (Kanyengam and Mangisoni, 2012).

However, although Gini-Coefficient provides useful information based on Lorenz curve shapes, a problem arises when Lorenz curves cross. It is problematic whether we can in this special case claim that a higher coefficient means a more unequal distribution. The other problem associated with Gini-Coefficients is that it favors equality of market shares without regard to the number of equalized firms. In other words, the coefficient equals zero for two firms with 50 percent market shares, for three firms with 33.33 percent market shares each, and so on (Kanyengam and Mangisoni, 2012; HSRC, 2016). Therefore, concentration ratio was used for this particular study to analyze market structure due to its wide application and simplicity.

2.2. Market Conduct

Market conduct refers to the patterns of behaviors that firms follow in adapting or adjusting to the markets in which they are involved (Wisdom *et al.*, 2014). It refers to the patterns of behavior that enterprises followed in adopting to the markets in which they sell or buy (Dirriba, 2013). Market conduct investigates the behaviors and rules that regulate the relationships between actors or how they engage with one another (WFP, 2011).

2.3. Market Performance

The term market performance refers to the economic results that flow from the industry as each firm pursues its particular line of conduct (Lenovo, 2011). Market performance analyses how markets are achieving optimal or desired outcomes such as low and stable prices that are predictably transmitted (WFP, 2011). Market performance can be evaluated by analyzing the costs and margins of marketing agents in different channels. A commonly used measure of system performance is the marketing margin or price spread (Wisdom *et al.*, 2014).

Marketing margin is defined as the difference between the price paid by consumers and that obtained by producers. It is also called the 'Farm - Retail Price Spread (SIFSIA, 2011). It is the price variation at different segments with the comparison of the final price to the consumer. It is the percentage of final weighted average selling price taken by each stage of marketing chain.

Total marketing margin is the difference between what a consumer pays and what a producer/farmer receives for the product. A wide margin usually means high prices to consumers and low prices to producers (Dirriba, 2013; Biruk, 2015). It is calculated by determining price variations at different segments and compares them with the final price paid by the consumer (Wisdom *et al*., 2014).

3. Methodology

3.1. Study area

Sidama Zone is one of 14 zones found under South Nations Nationalities and Peoples Regional state of Ethiopia. Shebedino district is one of the 19 *Districts* of Sidama zone which is located at the North-central part of Sidama zone at a distance of 27 km from the capital city of SNNPR, Hawassa. Astronomically it is situated in the coordinates of 6^0 46′ to 7^0 45′ North latitude and 39^0 34′ to 39^0 53′ East longitudes. The total area of the *District* was 276.9 sq.km. There were around 294179 people in the *District* who live being clustered in 35 *Kebeles*, out of which 49.2% (145728) were females and the rest 50.8% (148451) were males, as per the 2015 statistics of the *District* Bureau of Finance and Economic Development (BoFED, 2015).

3.2. Data Types, Data Sources, Method of Data Collection and Analysis

Both primary and secondary data were used to conduct this study. The primary data were collected from 156 honey producing farm households, 31 traders, 7 processors and 30 consumers using pre-tested semi-structured questionnaire. Two stage sampling technique was employed to select 156 sample producers. In the first stage 3

Peasant Associations (PAs) were selected randomly and in the second stage 156 farm households were selected randomly. Individual interview and focus group discussion were employed to collect primary data. Secondary data were collected from different published and unpublished sources. The data collected were analyzed using Structure - Conduct - Performance (S - C - P) approach. Structure - Conduct - Performance (S - C - P) is an analytical approach or framework used to study how the structure of the market and the behavior of sellers of different commodities and services affect the performance of markets (USAID, 2008). Structure, Conduct and Performance paradigm (SCP) is used as an analytical framework, to make relations amongst market structure, market conduct and market performance. It was developed in 1959 by Joe S. Bain Jr., who described it in his book "Industrial Organization" (Kumar, 2013).

4. Results and discussions

4.1. Socio-Economic and Demographic Characteristics of Honey Producers

4.1.1. Sex and marital status of producer households

Out of the total sampled households in the study area, 88.5% were male-headed and the rest 11.5% were female headed households. Regarding marital status of the sampled households, most of the household heads (95.5%) were married, 3.2 percent were widowed and the rest 1.3 percent were single (Table 1).

Table 1. Distribution of sampled households by sex and marital status

Variables		N	%
Sex	Male	138	88.5
	Female	18	11.5
Marital status	Single	2	1.3
	Married	149	95.5
	Widowed	5	3.2

Source: Own survey, 2016

4.1.2. Age, family size and educational level of household heads

Age of the respondents in the study district ranged from 20 to 80 and the mean age of the respondents was 44.34 years with standard deviation of 10.44. This shows that most of honey producers in the study district were adults. The family size of sampled respondents also ranged from 4 to 12 and the average family size was around 7 persons with standard deviation of 1.59 (Table 2). Regarding education, the mean grade level achieved by respondents was about grade 6. The minimum grade achieved was grade 0 (illiterate) and the maximum was grade 10

Table 2. Distribution of respondents by age, family size and education level

Variables	Mean	Sd. Deviation	Minimum	Maximum
Age	44.34	10.44	20	80
Family size	6.91	1.59	4	12
Education level	5.78	2.93	0	10

Source: Own survey, 2016

4.1.3. Total amount of honey produced, amount supplied to the market and amount consumed

The total amount of honey produced by sampled 156 households in 2015/2016 was 26951 kg, out of which 96.7% (26060 kg) was supplied to the market and the rest 3.3% (891 kg) was consumed. The minimum and maximum of total honey produced were 17 kg and 380 kg respectively. The mean total production was 165.6 kg (Table 3). The mean amount of marketed surplus was 160.1 kg with minimum, maximum and standard deviation of 15 KG, 370 kg and 83 respectively. The mean, maximum and minimum amounts of the consumed honey were 5.7 kg, 20 kg and 1 kg respectively.

Table 3. Distribution of respondents by amount of honey produced, supplied and consumed (kg)

Variables	Mean	Sd. Deviation	Minimum	Maximum
Amount of honey produced in 2015/2016	165.6	84.12	17	380
Amount of honey supplied to the marker in 2015/2016	160.1	83	15	370
Amount of honey consumed in2015/2016	5.7	2.92	1	20

Source: Own survey, 2016

4.1.4. Production and marketing costs of honey producers

According to data collected from producer farmers participated in focus groups discussion and sampled farmers, their total production cost includes cost of hives, cost of wax, cost of feed and labor cost. Cost of both modern and traditional hives for the year 2015/2016 has been separately identified using straight line method of calculating depreciation that assumes equal depreciation throughout the project life. Producers responded that on average modern hives serve 10 years and traditional hives serve 5 years. These service years of hives were used to compute depreciation. The scrape value of hives is assumed to be zero since producers responded that the hive will have no value at the end of its life. The labor used is converted into man equivalent unit. Labor cost of

producers was calculated by multiplying number of days spent in bee farm by the local wage value in the study area. Feed cost is a cost producers incurred to feed bees. It includes cost of pea/bean flour and cost of sugar that were used to feed honeybees in the study district as per the survey data. According to producer farmers, the marketing cost is associated to transportation cost from farm gate to the selling market and cost of honey container (collecting material).

A total cost of birr 451537 was incurred to produce 26951 kg of honey for the year 2015/2016 as per the survey data. The mean production cost of 1 kg of honey was birr 16.75 with minimum and maximum unit costs of birr 10.11 and birr 21.93 respectively. The standard deviation was 3.643 (Table 4). The total marketing cost incurred by producer farmers to supply 26060 kg of honey was birr 181899. The minimum and maximum marketing costs to supply 1 kg of honey were birr 5.33 and birr 12.00. The mean marketing cost of 1 kg of honey was birr 6.98.

Table 4. Distribution of respondents by production and marketing costs of 1KG of honey

Variables	Mean (birr)	Sd. Deviation	Minimum (birr)	Maximum (birr)
Production cost of 1kg of honey	16.75	3.643	10.11	21.93
Marketing cost of 1kg of honey	6.98	1.10	5.33	12.00
Total cost of 1kg of honey	23.73	4.25	15.44	33.93

Source: Own survey, 2016

The total cost of honey was calculated by adding total production cost and total marketing cost. The mean total cost of 1 kg of honey sold at farm gate is birr 22.4 which is equal to its mean production cost (birr 16.75) plus mean cost of container for 1kg of honey (birr 5.65). Since it is sold at farm gate, there is no transportation cost. The mean total cost of 1 kg of honey sold at market place is birr 23.73. It is the sum of its mean total production cost and its mean total marketing cost.

4.2. Demographic Characteristics of Traders

The demographic characteristics of traders (rural assemblers, wholesalers and retailers) were summarized in terms of their age, sex, marital status, education level, experience in honey trading and marketing costs incurred. The survey result indicated that all of sampled honey traders were males. Regarding marriage, 87.1% of them were married and the rest 12.9% were single (Table 5).

Table 5. Distribution of sampled traders by sex and marital status

Variables		N	%
Sex	Male	31	100
	Female	0	0
Total		31	100
Marital status	Single	4	12.9
	Married	27	87.1
Total		31	100

Source: Own survey, 2016

The age of sampled traders ranged from 28 to 50 years with an average age of 37.25 years. With regard to education, the education level of sampled traders in Shebedino District ranged from grade 4 up to grade 12 complete with mean and standard deviation of about 7 and 2.53 respectively (Table 6). Honey trading experience of traders ranged from 2 years up to 15 years with mean experience of 7.32 years (Table 6). This entailed that there were new entrants in to the honey trading business in the study District.

Table 6. Distribution of traders by age, family size, education and experience

Variables	Minimum	Maximum	Mean	Std. Deviation
Age of traders	28	50	37.25	15.716
Family size of traders	3	13	7.72	3.623
Educational level traders (grade)	4	12	6.58	2.53
Experience of traders (years)	2	15	7.32	3.869

Source: Own survey, 2016

Regarding marketing costs of traders, traders participated in focus group discussion and sampled traders responded that marketing costs included cost of transportation, cost of container, cost of packaging, costs of storage/shop rent, and tax paid from the business. A total of birr 62200, birr 87500 and birr 135780 were incurred by rural assemblers, wholesalers and retailers respectively to trade 86.52% of the total honey supplied to the market by producer farmers. The rest 13.48% was sold to consumers directly by producers themselves. The minimum and maximum costs incurred by rural assemblers to trade 1 kg of honey were birr 2.63 and birr 4.65 respectively. The mean cost was birr 3.53 (Table 7). The mean marketing cost of 1 kg of honey for wholesalers was birr 17.41 with minimum and maximum costs of birr 17 and birr 17.83 respectively. The mean, minimum and maximum costs of 1 kg of honey for retailers were birr 13.54, birr 11.2 and birr 17.75 respectively

(Table 7).

Table 7. Distribution of traders by marketing costs of 1 kg of honey

Traders	Cost of 1 kg of honey (birr)			
	Mean	Std. Deviation	Minimum	Maximum
Rural assemblers	3.53	0.8	2.63	4.65
Wholesalers	17.41	0.589	17	17.83
Retailers	13.54	2.034	11.2	17.75

Source: Own survey, 2016

4.3. Demographic Characteristics of Processors and Consumers

Regarding sex and marital status of processors, the survey result indicated that all interviewed processors were males and married ones (Table 8). Regarding consumers' sex and marital status, all interviewed consumers were males; 60% of them were married and the rest 40% were single (Table 8).

Table 8. Distribution of sampled processors and consumers by sex and marital status

Market actors	Variables		n	%
Processors	Sex	Male	7	100
		Female	0	-
	Marital status	Single	-	-
		Married	7	100
Consumers	Sex	Male	30	100
		Female	0	0
	Marital status	Single	12	40
		Married	18	60

Source: Own survey, 2016

The mean age of sampled processors was 45.29 years and ranged from 35 to 57. Their education level ranged from 0 (illiterate) up to grade 8 complete with mean grade level of 4 (Table 9). The mean family size of processors was around 8. Their honey trading experience ranged from 3 years up to 11 years with mean experience of 7 years (Table 9). The age of consumers ranged from 27 up to 70 with mean age of 49.43. Their mean family size was about 7 with minimum 3 and maximum 12. Their educational level ranged from grade 0(illiterate) up to grade 10 with mean grade level of around 4 (Table 9)

Table 9. Distribution of processors and consumers by age, family size, education and experience

Market participants	Variables	Mean	Std. Deviation	Minimum	Maximum
Processors	Age	45.29	7.273	35	57
	Family size	7.7	3.450	5	15
	Educational level (grade)	4	3.316	0	8
	Experience in honey processing (years)	7	2.646	3	11
Consumers	Age	49.43	11.872	27	70
	Family size	6.9	2.771	3	12
	Educational level (grade)	4.3	3.336	0	10

Source: Own survey, 2016

As per the responses of sampled processors and processors in the focus group discussion, the marketing costs of processors include transportation cost, cost of containers, cost of added ingredients (sugar, *Gesho* and yeast), cost of shop rent, wage paid and cost in terms of tax. A total of birr 1,636,380 was incurred to process 58,000 kg of honey in 2015/2016 as per the survey result. The processing cost of 1kg of honey ranged from birr 20.07 to birr 45.56 with a mean value of birr 31.06 and standard deviation of 8.22 (Table 10).

Table 10. Distribution of processors by processing costs of 1kg of honey

Variable	Mean	Std. Deviation	Minimum	Maximum
Processing cost of 1kg of honey to *Tej* (birr)	31.06	8.22	20.07	45.56

Source: Own survey, 2016

4.4. Honey Marketing Actors and Their Roles

Four actors have been identified from the survey result as actors of honey marketing in Shebedino district. These actors were producers, traders, processors and consumers of honey. The role of each actor in honey production and marketing, the linkage among themselves and the product (honey) flow through each channel is discussed in Table 11 bellow and indicated in figure bellow.

Table 11. Honey marketing actors/participants and their roles

Market actors/participants	Activities performed in 2015/2016
Producers	Produced honey
	Consumed some amount
	Supplied most of the produce to the market
Rural assemblers	Assembled honey from the 23 producer *Kebeles* of the study district
	Sold the assembled honey for wholesalers, processors and consumers.
Wholesalers	Bought honey from rural assemblers in Leku town
	Transported it using public busses and lorry
	Sold the honey they bought in Hawassa town for retailers
Retailers	Purchased honey from farmers and wholesalers
	Retailed it for processors and consumers
Processors	Processed honey to *Tej*
	Sold it for consumers
Consumers	Purchased and consumed honey

Source: Own survey, 2016

Honey Market Channel: Six main marketing channels were identified for honey marketing in Shebedino district from the survey data in 2015/2016. The identified honey marketing channels indicated the routes through which the marketed honey flowed from producer farmers (where it originated) to consumers (where it ended). It also entailed linkage among honey market participants. These marketing channels were:

I. Producers → rural assemblers → processors → consumers = 4564.62kg (17.52%)
II. Producers → rural assemblers → consumers = 500.16kg (1.92%)
III. Producers → rural assemblers → wholesalers → retailers → consumers =5056.78 (19.4%)
IV. Producers → retailers → processors → consumers = 5746.4kg (22.05%)
V. Producers → retailers → consumers = 6678.8kg (25.63%)
VI. Producers → consumers = 3512.89kg (13.48%)

As indicated above, market channel V carried the largest volume of output flowing through in 2015/2016. It carried 6678.8kg of honey out off the total 26060kg of honey supplied by the producer farmers for sale in the year 2015/2016, followed by channel IV which carried 22.05% of the total supply by producer farmers. This showed that channel V and IV were the main channels through which large volume of honey channeled (47.68%) in the year 2015/2016 in cumulative terms. Figure 2 shows flow of honey through these channels.

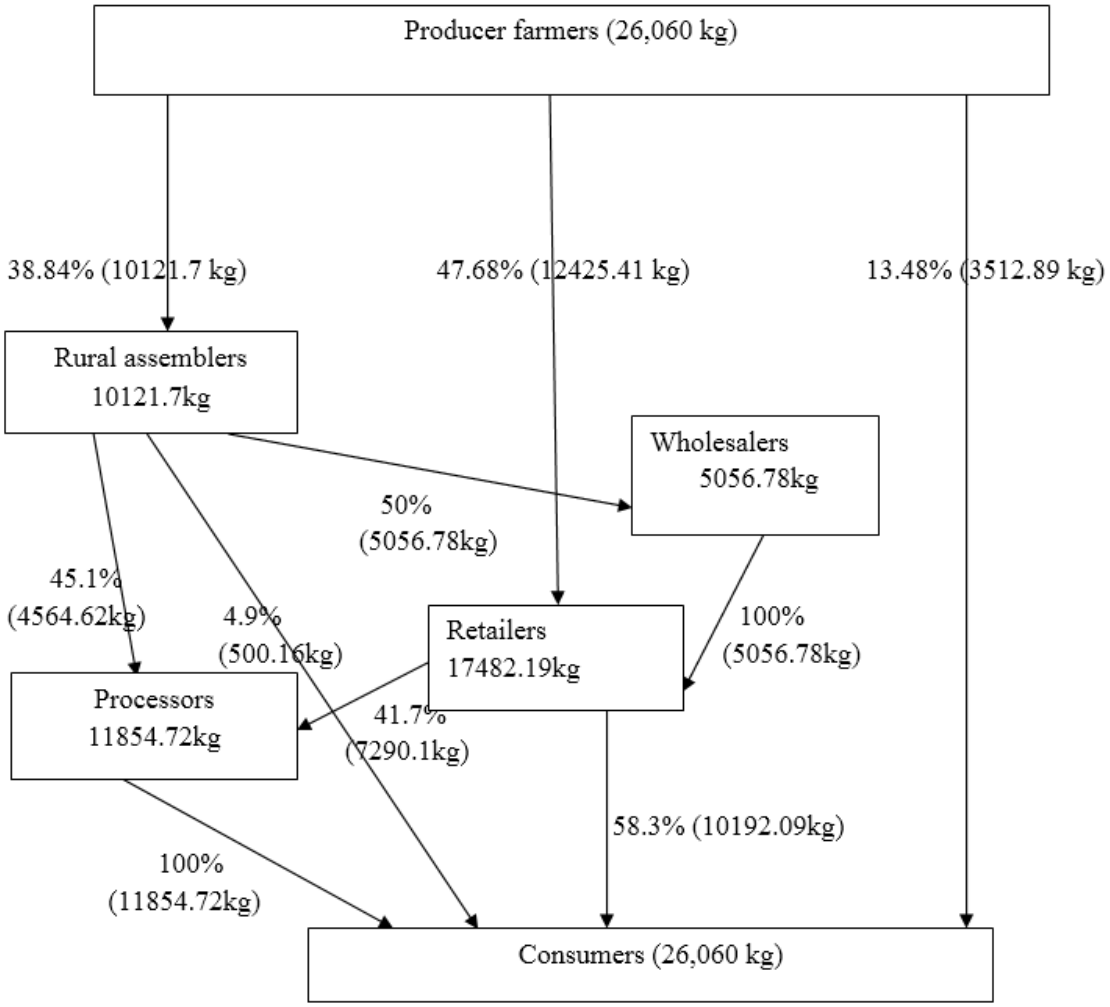

Figure: Flow of marketed supply of honey through market channels in Shebedino Woreda
Source: Own computation from survey data, 2016

4.5. Structure, Conduct and Performance of Honey Market

4.5.1. Honey Market Structure

Market structure in this study has been described using concentration ratio, and barriers to entry (capital requirement, experience and licensing procedure)

4.5.1.1. Concentration ratio

Market concentration ratio has been calculated to analyze the structure of honey market prevalent in Shebedino district. It was expressed in terms of CRx which stood for the percentage of the marketed honey controlled by the largest X firms. Four firms concentration ration (CR_4) was applied on this study for judging the market structure. The computation was performed by taking the annual or total volume of honey purchased in 2015/2016 by sample traders at district market. A CR4 of 50% and above is generally considered strong oligopoly; CR4 between 33% and 50% is generally considered a weak oligopoly and a CR4 of fewer than that is no oligopoly at all.

Out of the total 31 sampled traders, 27 of them purchased honey from producer farmers in the study district. The two sample wholesalers purchased honey from rural assemblers. The remaining two traders, who were retailers at Hawassa town purchased honey from wholesalers at Hawassa town and retailed it at Hawassa town. Therefore, the analysis of the degree of market concentration ratio was carried out for 27 traders who purchased honey at the study district from producers based on their honey purchased quantities in 2015/2016 (Table 12).

Table 12. Honey trader's concentration ratio in Shebedino district 2015/2016

Frequency of traders	Cumulative frequency of traders	Volume of purchase (kg)	Total volume of purchase (kg)	% share of purchase	Cumulative % share
1	1	5000.00	5000.00	18.18	18.18
1	2	4000.00	4000.00	14.55	32.73
2	4	3500.00	7000.00	25.45	58.18
2	6	2000.00	4000.00	14.55	72.73
1	7	1000.00	1000.00	3.64	76.37
1	8	700.00	700.00	2.55	78.92
1	9	600.00	600.00	2.18	81.10
5	14	500.00	2500.00	9.10	90.20
2	16	400.00	800.00	2.91	93.11
2	18	300.00	600.00	2.18	95.29
4	22	200.00	800.00	2.91	98.20
5	27	100.00	500.00	1.80	100.00

Source: Own survey, 2016

The CR_4 measures of market concentration ratio showed that the top four or 14.8% of the traders have controlled 58.18% of the honey market in 2015/16 in Shebedino district. This therefore indicated that honey market in Shebedino district was characterized with strong oligopoly.

4.5.1.2. Barriers to entry

Barriers are those factors that hindered individuals from participating in honey trading. Capital requirement (lack of credit), trading experience, and licensing procedure have been discussed under this sub-topic.

It is known that lack of capital discourages entry into a given business. As per the survey data, 87.1% of the total sampled traders have responded that they did not receive credit for honey trading and argued that they would have expanded the business and new entrants have come to the business if there had been credit provided. Therefore lack of credit was one of the barriers to enter into honey trading in Shebedino district.

As per the survey data, 64.52% of the total traders have no licenses to trade honey and the rest 35.48% have licenses (Table 13). Currently the district Trade and Industry Development Coordination Unit (TIDCU) is licensing anyone who wants to join honey marketing as per districts' TIDCU experts. According to the survey data, since unlicensed traders were paying no taxes, they refused to be licensed to avoid expenses in terms of tax. These unlicensed traders were charging competitive/predatory prices and discouraging the licensed traders. Therefore though licensing procedure was not barrier to enter to honey trading business, pricing strategy of unlicensed traders had been one of the constraints in marketing of honey in Shebedino district.

Experience is knowledge learned from previous works. To maintain a business, many experts suggest that before starting a business, one should have enough and sufficient knowledge as well as experience to keep the business running as stated in Samuel (2015). Trade experience in this study refers to the number of years that honey trader engaged in trading activity. As per the survey data, the mean experience of honey traders in Shebedino district was 7.32 years (Table 6). This shows that there were new entrants in to the honey trading business in the study district which implied that experience was one of barrier to enter in the business.

Table 20. Distribution of traders by license and credit

Access to Services	Status of trader	Number of trader	%
License	Licensed	11	35.48
	Unlicensed	20	64.52
Credit	Received	4	12.9
	Not received	27	87.1

Source: Own survey, 2016

Therefore, as compared to perfectly competitive markets where there are many buyers and sellers, and free entry and exist, honey market structure in Shebedino woreda was somewhat deviated in that it showed strong oligopoly where only four or 14.8% of the traders have controlled 58.18% of the market; capital requirement (credit) and experience were barriers to entry.

4.5.2. Market Conduct

Refers to the patterns of behaviour that traders follow and how they adjust to changing market conditions. Both producers' conduct and traders' conduct in Shebedino *District* is discussed separately under this topic.

4.5.2.1. Producers' market conduct

As per the survey data, most of the farmers (95.5%) produce honey thinking it as an income generating business. Out of the total respondent farmers, about 79.5% reported that they were producing honey for sale and the rest 20.5% produced honey both for consumption and sell purpose (Table 21). Most of them harvested honey twice a year (75.6%) and sold it at farm get (68.8%), market place (18.8%) and buyers' retail shops (12.5%). The price

was set by the market (i.e. by interaction of market demand and supply) (67.3%) and through negotiation (32.7%) between seller and buyer. They have weak or no organizations that could strengthen their bargaining power in honey marketing. Due to this, there was a weak linkage among them and they lack the power to negotiate with different actors to obtain faire share of consumers' price (end price). As a result they were price takers in all the market chain as per the survey data.

Table 21. Production and selling strategies of producers

Activities	Strategies	Percent
Purpose of production in 2015/2016	Consumption only	-
	Sell	79.5
	Both	20.5
Thinking beekeeping as a business	Yes	95.5
	No	4.5
Number of harvest per year in 2015/2016	Twice	75.6
	Three times	23.1
	Four times	1.28
Who set selling price in 2015/2016	Market	67.3
	Negotiation	32.7
	Seller	-
	Buyer	-
	Retailers	47.68
	Wholesalers	-
	Processors	-
	Consumers	13.48
Where producers sold honey in 2015/2016	Farm gate	68.8
	Market place	18.8
	Buyers' shop	12.5

Source: own survey, 2016

4.5.2.2. Traders' market conduct

Three categories of traders of honey were observed in Shebedino *District*. These were assemblers, wholesalers and retailers. Out of the sampled 31 traders, 16.13% were assemblers, 6.45% were wholesalers, and 77.42% were retailers. Out of the total sampled traders, 74.2% argued that the buying price was set by the market, 19.35% argued that it was set by negotiation and the rest 6.45% replied that it was set by themselves (the buyers) (Table 22). No middle men or brokerages observed in the honey marketing channel in the study *District*. Buyers and sellers in the study *District* undertook the buying and selling activity meeting face to face without any middle men. All rural assemblers and most of retailers (91.67%) bought honey fully from farmers. All traders argue that the selling price was set by market (54.84%), negotiation (25.81%) and by the traders themselves (19.35%) (Table 22). Most of them had no licenses to trade honey (table 20) and therefore were not subject to income taxes. Due to this, predatory pricing was being exercised as per the survey data.

Table 22. Traders buying and selling strategies

Activities	Category	Number	Percent
Types of traders	Rural assemblers	5	16.13
	Wholesalers	2	6.45
	Retailers	24	77.42
Who set buying price in 2015/2016	Market	23	74. 2
	Negotiation	6	19.35
	Sellers	-	-
	Buyers (trader)	2	6.45
Who set selling price in 2015/2016	Market	17	54.84
	Negotiation	8	25.81
	Sellers (trader)	6	19.35
	Buyers		
	Consumers		

Source: Own survey, 2016

Therefore, as compared to competitive market norms where price is set by the interaction of market demand and supply and where both buyers and sellers are price takers, market conduct in Shebedino *District* was deviated in that 32.7 % of selling price of producers was set by negotiation, 25.81 % of the selling price of traders was set by negotiation and 19.35% of the selling price of traders was set by the sellers themselves. i.e., some sellers were price makers as per the survey result (Table 22) while they are supposed to be price takers.

There was also predatory pricing which was affecting honey market in the *district* which is in contradiction to competitive market where no individual buyer/seller can affect the market price. Free entry and exit was also constrained by capital requirement and honey trading experience.

4.5.3. Market Performance

The market performance for this study was evaluated by analyzing margins of marketing agents in all six identified marketing channels and analyzing profits.

4.5.3.1. Marketing margin

The marketing margin is a commonly used measure of system performance as stated in Dirriba (2013). It was calculated by determining price variations at different segments and comparing them with the final price paid by the consumer. Table 23 presents honey marketing margins for all channels identified in Shebedino *District*.

4.5.3.2. Profit

Profit here refers to the net income market participants got from honey production and marketing business after deducting their total costs. Profit of each marketing agent was calculated by subtracting total marketing costs incurred in marketing process from the margin they got. Total cost of producers included their production costs as well (Table23).

Table 23. Honey marketing margins for all channels in Shebedino *District*

Agents		Honey market channels					
		I	II	III	IV	V	VI
Producer	Selling price (birr/kg)	50	50	50	55	55	60
	Production cost (birr/kg)	16.75	16.75	16.75	16.75	16.75	16.75
	Marketing cost (birr/kg)	5.65	5.65	5.65	6.98	6.98	6.98
	GMMp (%)	33.3	62.5	50	36.67	58.51	100
	Profit (birr/kg)	27.6	27.6	27.6	31.27	31.27	36.27
	Profit share (%)	29.67	51	64	38.3	55.1	100
Rural	Purchase price (birr/kg)	50	50	50			
assemblers	Selling price (birr/kg)	75	80	60			
	Marketing cost (birr/kg)	3.53	3.53	3.53			
	GMMra (%)	16.67	37.5	10			
	Profit (birr/kg)	21.47	26.47	6.47			
	Profit share (%)	23.1	49	15			
Wholesalers	Purchase price (birr/kg)			60			
	Selling price (birr/kg)			83			
	Marketing cost (birr/kg)			17.41			
	GMMw(%)			23			
	Profit (birr/kg)			5.59			
	Profit share (%)			13			
Retailers	Purchase price (birr/kg)			83	55	55	
	Selling price (birr/kg)			100	82	94	
	Marketing cost (birr/kg)			13.54	13.54	13.54	
	GMMr (%)			17	18	41.49	
	Profit (birr/kg)			3.46	13.46	25.46	
	Profit share (%)			8	16.5	44.9	
Processor	Purchase price (birr/kg)	75			82		
	Selling price (birr/kg)	150			150		
	Marketing cost (birr/kg)	31.06			31.06		
	GMM_{pr} (%)	50			45.33		
	$Profit_{pr}$ (birr/kg)	43.94			36.94		
	Profit share (%)	47.24			45.2		
TGMM (%)		66.67	37.5	50	63.33	41.49	00
Total profit (birr/kg)		93.01	54.07	43.12	81.67	56.73	36.27
Mean profit in each channel (birr/kg)		30.85	27.04	10.78	27.22	28.37	36.27

Source: Own survey, 2016

As presented Table 23, the total profit was highest in channel I which was birr 93.01 per kg of honey followed by channel IV which produced total profit of birr 81.67. From all honey traders, processors have got the highest profit which accounted for birr 43.94. Channel VI produced highest profit for producers (birr 36.27) and possessed faire price both for the producers and consumers in relative terms. This is because producers directly sold honey for consumers without any middle actors in this channel. Large volume of honey flowed in channels

(channel V and Chanel IV) where the producers' profits were low relative to channel VI. Therefore it can be said that producer farmers were not benefitted much from their supplies to the market and also proved that the marketing system in Shebedino *District* was somewhat distorted where large profit goes to middle actors.

5. Conclusion

As compared to perfectly competitive markets where there are many buyers and sellers, honey market structure in Shebedino district was somewhat deviated in that it showed strong oligopoly where only four or 14.8% of the traders have controlled 58.18% of the market. unlike competitive market norms where price is set by the interaction of market demand and supply and where both buyers and sellers are price takers, 32.7 % of selling price of producers was set by negotiation, 25.81 % of the selling price of traders was set by negotiation and 19.35% of the selling price of traders was set by the sellers themselves. This entailed that there is price discrimination in honey marketing in the study district. Some sellers were also price makers as while they are supposed to be price takers compared to competitive market norm. There was also predatory pricing which was affecting honey market in the *district* which is in contradiction to competitive market where no individual buyer/seller can affect the market price. Free entry and exit was also constrained by capital requirement and honey trading experience. Marketing margin analysis indicated that large margin goes to middle actors (processors) and large volume of honey flowed in channels (channel V and Chanel IV) where the producers' profits were low relative to channel VI. Due to this, producer farmers were not benefitted much from their honey supplies. Therefore, it can be concluded that honey market if Shebedino district is inefficient.

6. Reference

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Biography

Tizazu Toma was born in Hawassa town, South Nation, Nationalities and Peoples Regional State in 1987 G.C. He completed his elementary school education at *Gebeya Dar* Primary School and *Tabor* junior secondary school and his Secondary and preparatory schools at *Tabor* high school. He joined Hawassa University, Hawassa college of Agriculture, in 2006 G.C, and graduated with B.Sc. degree in Agriculture (Agricultural Resources Economics and Management) in 2008. Soon after graduation, he served in different organizations until 2015 G.C. In September 2015, he joined Haramaya University to pursue his M.Sc. degree in Agricultural Economics and graduated in July 5, 2017.